UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/697,496	10/27/2000	Takeshi Saito	199206US2RD	3519

7590 04/08/2004

OBLON SPIVAK MCCLELLAND MAIER & NEUSTADT
FOURTH FLOOR
1755 JEFFERSON DAVIS HIGHWAY
ARLINGTON, VA 22202

EXAMINER	
WU, ALLEN S	
ART UNIT	**PAPER NUMBER**
2135	7

DATE MAILED: 04/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/697,496	SAITO ET AL.	
	Examiner	Art Unit	
	Allen S. Wu	2135	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 October 2000*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 October 2000* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 4 recites the limitation "reception" in line 3 of claim. There is insufficient antecedent basis for this limitation in the claim.

Drawings

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 402, 1102, and 1219. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 21092 (see specification page 33 line 9). A proposed drawing correction or

corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

7. Claims 1-9 and 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Traw et al, US Patent 5,949,877, in view of Matsuda, US Patent 6,389,496.

As per claims 1 and 15, Traw et al discloses communication between two nodes comprising of transferring data from a transmission node (see for example; protected content, col 8 ln 47-58) through an isochronous channel on the IEEE 1394 bus (see for example; col 8 ln 53-56) to a reception node (see for example; devices A and B, col 7 ln 13-35 and content channel, col 8 ln 31-56), a query on information regarding the transmission node from the reception node (see for example device A, col 7 ln 5-36), a reply from the transmission node (see for example; device B, col 44-65). Traw et al further discloses that other handshaking protocols can also be used (see for example; col 7 ln 21-25). The means of query, inquiry, reply, and notification between two devices are well known in the art of handshaking between two nodes.

Traw et al does not explicitly teach communication between transmission node and a reception node on a first and second IEEE 1394 bus respectively. Matsuda discloses a network connection device (see for example; bridge, fig 7 and abstract) for connecting a plurality of IEEE1394 buses (see for example, col 8 ln 55-col 9 ln 12), wherein data transferred from a transmission node on a first

IEEE 1394 bus to a reception node on a second IEEE 1394 bus (see for example, col 5 ln 67-col 6 ln 25) using respective isochronous channels (see for example, col 6 ln 1-25) and information is sent between the transmission node and the reception node using the respective prescribed packets (see for example fig 11-16; col 5 ln 1-21; and col 14 ln 7-44). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the teachings of Traw et al to further communicate with nodes on a different IEEE 1394 bus. One of ordinary skill in the art at the time of the applicant's invention would have been motivated to combine the teachings of Matsuda within the system of Traw et al because it would have increased the amount of devices that can be coupled to the bus through an addition of multiple busses (see for example Matsuda, col 4 ln 11-56). Limiting the amount of devices connected in a network limits the functionality of the network. Being able to expand the amount of devices connected on the network will promote both the functionality and number of users of a network.

As per claim 2, Traw – Matsuda discloses the claimed limitations described above (see claim 1). Traw – Matsuda further discloses information transfer being one of an asynchronous stream, and an asynchronous packet (see for example; Traw et al col 7 ln 1-5; Matsuda col 5 ln 1-24 and col 12 ln 40-col 13 ln 7).

As per claim 3, Traw – Matsuda discloses the claimed limitations described above (see claim 1). Traw further discloses information identifying the transmission node (see for example, device certificate; col 7 ln 5-12). Matsuda further discloses information being transferred includes information for identifying a plug or sub-unit of the transmission node that is to be used for transferring the data (see for example, col 18 ln 10-45 and figs 25-26). Matsuda discloses using the information identifying a plug for establishing an isochronous channel (see for example; col 3 ln 61-col 4 ln 5). One of ordinary skill in the art at the time of the applicant's invention would have been able to combine the information identifying the plug used for establishing an isochronous channel and the information identifying the transmission node in the reply for the purposes of establishing isochronous channels between the IEEE 1394 bus.

As per claims 4 and 16, Traw – Matsuda discloses the claimed limitations described above (see claim 1). Traw et al further discloses the reception node receiving the information regarding the transmission node so as to enable the reception unit to carry out an authentication and key exchange procedure directly with the transmission node on the first IEEE 1394 bus according to the information regarding the transmission node that is contained in the reply (see for example; authentication mechanism col 4 ln 37-60; and Channel Key Exchange col 6 ln 60-col 7 ln 35 and col 8 ln 18-29). As for the reply notification unit, one of ordinary skill in the art at the time of the applicant's invention would have

recognized such a unit for transmitting data to and from the different nodes between the two IEEE 1394 buses in the combination of Traw et al and Matsuda.

As per claim 5, Traw – Matsuda discloses the claimed limitations described above (see claim 1). As for the inquiry unit making the inquiry by pretending that a virtual plug or sub unit of the network connection device is receiving the data on the first isochronous channel and the reply notification unit notifies the reply by pretending that a virtual plug or sub-unit of the network connection device is transmitting the data on the second isochronous channel, Traw discloses an alternative method of such inquiry and reply means, wherein the inquiry and reply is done before the isochronous channel is established. One of ordinary skill in the art at the time of the applicant's invention would have been able to have a design choice for such reply and inquiry means for establishing identification data since the applicant has not explicitly stated any other purpose for such reply and inquiry means and that the means disclosed by the Traw-Matsuda combination is just as efficient.

As per claim 6, Traw – Matsuda discloses the claimed limitations described above (see claim 5). Traw – Matsuda further discloses information transfer being one of an asynchronous stream, and an asynchronous packet (see for example; Traw et al col 7 ln 1-5; Matsuda col 5 ln 1-24 and col 12 ln 40-col 13 ln 7).

As per claim 7, Traw – Matsuda discloses the claimed limitations described above (see claim 1). Traw further discloses information for identifying the reception node (see for example, col 7 ln 44-col 8 ln 29) and information identifying the transmission node (see for example, device certificate; col 7 ln 5-12). Matsuda further discloses information being transferred includes information for identifying a plug or sub-unit of the transmission node that is to be used for transferring the data (see for example, col 18 ln 10-45 and figs 25-26). Matsuda discloses using the information identifying a plug for establishing an isochronous channel (see for example; col 3 ln 61-col 4 ln 5). One of ordinary skill in the art at the time of the applicant's invention would have been able to combine the information identifying the plug used for establishing an isochronous channel and the information identifying the reception or transmission node in the prescribed packets for the purposes of establishing isochronous channels between the IEEE 1394 bus in the combination of Traw and Matsuda.

Traw et al further discloses a first and second authentication and key exchange processing unit to carry out an authentication and key exchange procedure between two different nodes (see for example; col 9 ln 30-37 and figs 3-4). As for the authentication and key exchange being carried out between the virtual plug or sub-unit of the transmission node on the first IEEE1394 bus and between the virtual plug or sub-unit of the transmission node on the second IEEE 1394 bus, Traw discloses a means of authentication and key exchange

procedures are carried out using asynchronous packets (see for example, col 7 ln 1-4). Matsuda further discloses a means of communicating between two buses through a bridge, wherein communication is initialized using asynchronous packets using both node ID and the bus ID (see for example; col 5 ln 1-22 and col 13 ln 15-col 14 ln 6). One of ordinary skill in the art at the time of the applicant's invention would have recognized through the combination of Traw et al and Matsuda an authentication and key exchange means between two nodes on different buses using asynchronous packets. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have a design choice to use a means of authentication and key exchange being carried out between the virtual plug or sub-unit of the transmission node on the first IEEE1394 bus and between the virtual plug or sub-unit of the transmission node on the second IEEE 1394 bus in the Traw-Matsuda combination because the applicant has not explicitly stated any other purpose or reason for using such authentication and key exchange means other than authenticate the nodes and exchange encryption keys and that the authentication and key exchange means in the Traw-Matsuda combination is just as efficient.

As per claim 8, Traw – Matsuda discloses the claimed limitations described above (see claim 7). Traw further discloses an encryption key reception unit for receiving information regarding an encryption key related to the virtual plug or sub-unit (see for example; exchange the control channel

encryption key, col 9 ln 31-39), after the authentication and key exchange procedure (see for example; col 8 ln 18-29). Traw further discloses an encryption key transfer unit configured to transfer the information regarding the encryption key to the reception node (see for example; col 9 ln 31-36) after the authentication and key exchange procedure (see for example; col 8 ln 18-29). As for the first and second IEEE 1394 buses, Matsuda et al discloses the network connection device (bridge) for communicating between two buses as described above (see claim 1). One of ordinary skill in the art at the time of the applicant's invention would have recognized through the combination of Traw et al and Matsuda an authentication and key exchange means between two nodes on different buses using asynchronous packets. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have a design choice to use a means of transfer and reception of encryption key related information by receiving the information after the authentication and key exchange procedure by the first authentication and key exchange procedure unit is completed and transferring means after at least part of the authentication and key exchange procedure by the second authentication and key exchange unit is completed in the Traw-Matsuda combination because the applicant has not explicitly stated any other purpose or reason for using such receiving and transferring means other than for transferring the information related to the key from a transmission node to a reception node and that the transferring means in the Traw-Matsuda combination is just as efficient.

As per claim 9, Traw – Matsuda discloses the claimed limitations described above (see claim 1). Matsuda et al further discloses a memory unit (see for example; col 9 ln 16-25) to store a correspondence among an for identifying the first isochronous channel, an information for identifying the transmission node, and an information for identifying the second isochronous channel (see for example col 10 ln 6-50), wherein the inquiry unit makes the inquiry to the transmission node as determined by referring to the correspondence stored in the memory unit, according to the information for identifying the second isochronous channel (see for example; col 15 ln 60-col16-ln26). As for the information for identifying the second isochronous channel that is contained in the query received by the query reception unit, Matsuda discloses an alternative method of controlling inquiry by using an isochronous resource manager and a bridge manager (see for example figs 22 and 25; also col 18 ln 6-53). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have a design choice in controlling inquiry transmissions according to the information for identifying the second isochronous channel that is contained in the query received by the query reception unit because the applicant has not explicitly stated the an other purpose or reason for such controlling means other than for transmission of packets between buses and that the means as described by the Traw-Matsuda combination is just as efficient.

As per claim 13, Traw et al discloses a communication device (see for example col 3 ln 25-24) connected to a IEEE 1394 bus (see for example col 3 ln 25-34) for receiving data through a network from a transmission node (see for example col 3 ln 25-34 and col 8 ln 31-57) comprising receiving information through an isochronous channel on the IEEE 1394 bus (see for example; col 8 ln 53-56) a query on information regarding the transmission node (see for example device A, col 7 ln 5-36), a reply from the communication device from an inquiry (see for example; device B, col 44-65). Traw et al further discloses that other handshaking protocols can also be used (see for example; col 7 ln 21-25). The means of query, inquiry, reply, and notification between two devices are well known in the art of handshaking between two nodes. Traw et al further discloses an authentication and key exchange processing unit configured to carry out an authentication and key exchange procedure directly with the transmission node (see for example col 9 ln 31-39).

Traw et al does not explicitly teach a network connection device connected on a first IEEE 1394 bus communicating between a communication device on the first IEEE 1394 bus and a transmission node on a second IEEE 1394 bus. Matsuda discloses a network connection device (see for example; bridge, fig 7 and abstract) for connecting a plurality of IEEE1394 buses (see for example, col 8 ln 55-col 9 ln 12), wherein data transferred from a transmission node on a second IEEE 1394 bus to a communication device on the first IEEE

1394 bus (see for example, col 5 ln 67-col 6 ln 25) using respective isochronous channels (see for example, col 6 ln 1-25) and information is sent between the transmission node and the reception node using the respective prescribed packets (see for example fig 11-16; col 5 ln 1-21; and col 14 ln 7-44). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the teachings of Traw et al to further communicate with nodes on a different IEEE 1394 bus through a network connection device (bridge). One of ordinary skill in the art at the time of the applicant's invention would have been motivated to combine the teachings of Matsuda within the system of Traw et al because it would have increased the amount of devices that can be coupled to the bus through an addition of multiple busses (see for example Matsuda, col 4 ln 11-56). Limiting the amount of devices connected in a network limits the functionality of the network. Being able to expand the amount of devices connected on the network will promote both the functionality and number of users of a network.

As per claim 14, Traw – Matsuda discloses the claimed limitations described above (see claim 13). Traw et al further discloses a reply that contains the information regarding the transmission node (see for example; device certificate, col 7 ln 5-65) and the authentication and key exchange processing unit carries out the authentication and key procedure according to the information

regarding the transmission node that is contained in the reply (see for example, col 8 ln 11-29 and col 9 ln 30-39).

As for claim 17, Traw – Matsuda discloses the claimed limitations described above (see claim 15). Traw further discloses information for identifying the reception node (see for example, col 7 ln 44-col 8 ln 29) and information identifying the transmission node (see for example, device certificate; col 7 ln 5-12). Matsuda further discloses information being transferred includes information for identifying a plug or sub-unit of the transmission node that is to be used for transferring the data (see for example, col 18 ln 10-45 and figs 25-26). Matsuda discloses using the information identifying a plug for establishing an isochronous channel (see for example; col 3 ln 61-col 4 ln 5). One of ordinary skill in the art at the time of the applicant's invention would have been able to combine the information identifying the plug used for establishing an isochronous channel and the information identifying the reception or transmission node in the prescribed packets for the purposes of establishing isochronous channels between the IEEE 1394 bus in the combination of Traw and Matsuda.

Traw further discloses information identifying the transmission node (see for example, device certificate; col 7 ln 5-12). Matsuda further discloses information being transferred includes information for identifying a plug or sub-unit of the transmission node that is to be used for transferring the data (see for example, col 18 ln 10-45 and figs 25-26). Matsuda discloses using the

information identifying a plug for establishing an isochronous channel (see for example; col 3 ln 61-col 4 ln 5). One of ordinary skill in the art at the time of the applicant's invention would have been able to combine the information identifying the plug used for establishing an isochronous channel and the information identifying the transmission node in the reply for the purposes of establishing isochronous channels between the IEEE 1394 bus.

As for the inquiry unit making the inquiry by pretending that a virtual plug or sub unit of the network connection device is receiving the data on the first isochronous channel and the reply notification unit notifies the reply by pretending that a virtual plug or sub-unit of the network connection device is transmitting the data on the second isochronous channel, Traw discloses an alternative method of such inquiry and reply means, wherein the inquiry and reply is done before the isochronous channel is established. One of ordinary skill in the art at the time of the applicant's invention would have been able to have a design choice for such reply and inquiry means for establishing identification data since the applicant has not explicitly stated any other purpose for such reply and inquiry means and that the means disclosed by the Traw-Matsuda combination is just as efficient.

As per claim 18, Traw – Matsuda discloses the claimed limitations described above (see claim 15). Traw et al further discloses a first and second authentication and key exchange processing unit to carry out an authentication

and key exchange procedure between two different nodes (see for example; col 9 ln 30-37 and figs 3-4). As for the authentication and key exchange being carried out between the virtual plug or sub-unit of the transmission node on the first IEEE1394 bus and between the virtual plug or sub-unit of the transmission node on the second IEEE 1394 bus, Traw discloses a means of authentication and key exchange procedures are carried out using asynchronous packets (see for example, col 7 ln 1-4). Matsuda further discloses a means of communicating between two buses through a bridge, wherein communication is initialized using asynchronous packets using both node ID and the bus ID (see for example; col 5 ln 1-22 and col 13 ln 15-col 14 ln 6). One of ordinary skill in the art at the time of the applicant's invention would have recognized through the combination of Traw et al and Matsuda an authentication and key exchange means between two nodes on different buses using asynchronous packets. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have a design choice to use a means of authentication and key exchange being carried out between the virtual plug or sub-unit of the transmission node on the first IEEE1394 bus and between the virtual plug or sub-unit of the transmission node on the second IEEE 1394 bus in the Traw-Matsuda combination because the applicant has not explicitly stated any other purpose or reason for using such authentication and key exchange means other than authenticate the nodes and exchange encryption keys and that the authentication and key exchange means in the Traw-Matsuda combination is just as efficient.

8. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Traw et al, US Patent 5,949,877 in view of Nomura, US Patent 6,115,392.

As per claim 10, Traw et al discloses communication between two nodes comprising of transferring data from a transmission node (see for example; protected content, col 8 ln 47-58) to a reception node (see for example; devices A and B, col 7 ln 13-35 and content channel, col 8 ln 31-56), a query on information regarding the transmission node from the reception node (see for example device A, col 7 ln 5-36), a reply from the transmission node (see for example; device B, col 44-65), an authentication request (see for example col 7 ln 5-36), an encryption key exchange (see for example col 8 ln 18-29), and information being transferred through prescribed channels (col 8 ln 31-56). Traw et al further discloses that other handshaking protocols can also be used (see for example; col 7 ln 21-25). The means of query, inquiry, reply, and notification between two devices are well known in the art of handshaking between two nodes.

Traw et al further discloses a network supporting use of one or more encryption keys for transmission an/or reception of encrypted data between nodes (see for example, col 3 ln 25-64). Traw et al does not explicitly teach communication between transmission node and a reception node between two networks. Nomura discloses a method of connecting two networks (see fig 4) wherein information is transferred from receiving data from a node connected on

the first network (see for example; fig 4 and col 5 ln 5-35) and transferring the data received by the data reception unit to a node connected on the second network through the prescribed channel on the second network (see for example, fig 4 and col 5 ln 19-44). Traw et al further discloses that the data can be transferred between any forms of communication links (see col 12 ln 1-12). Furthermore, the means of transmitting from one node in one network to another node of a different network through different channels are well known in the art (for example transmitting between a local area network and a wide area network). It would have been obvious to one of ordinary skill in the art to combine the teachings of Nomura et al within the system of Traw et al because it would have provided broadcasting to multiple terminals across different networks while implementing content protection with authentication and key exchange. In the art of broadcasting media, it is important to be able to reach a vast amount of terminals through different networks while providing content protection between the nodes.

As per claim 11, Traw-Nomura discloses the claimed limitations described above (see claim 1). Traw further discloses transmitting the encryption key information regarding an encryption key for the specific data to be transferred to a specific channel (see for example; control channel key, col 8 ln 11-29). Nomura further discloses an inquiry for identifying a specific channel by which said one node is receiving (see for example, col 11 ln 6-20 and col 16 ln 51-64)

and a reply to the inquiry (see for example, col 11 ln 5-62). One of ordinary skill in the art at the time of the applicant's invention would have realized that the encryption key would be transferred to the specific channel on the second network as specified by information contained in the reply received by the reply reception unit in the Traw-Nomura combination.

As per claim 12, Traw – Nomura discloses the claimed limitations described above (see claim 1). Traw et al further discloses a first and second authentication and key exchange processing unit to carry out an authentication and key exchange procedure between said another node and said node (see for example; col 9 ln 30-37 and figs 3-4).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent 6,519,671 to Kondou et al discloses a method of connecting IEEE 1394 buses.

Intel, Platform Solutions online news for the hardware developer, discloses a method of content protection using key exchange between nodes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen S. Wu whose telephone number is 703-305-0708. The examiner can normally be reached on Monday-Friday 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on 703-305-4393. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Allen Wu
Patent Examiner
Art Unit 2135

ASW

GREGORY MORSE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100